

**AMENDMENTS TO THE SPECIFICATION:**

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Please replace the paragraph commencing at line 5 with the following amended paragraph:

--Each optical communication channel in the WDM optical communication system has a specified BER value. If the actual BER for the optical communication channel is greater than this specified BER value, then the optical transmitter/receiver pair 120/130 for that optical communication channel is not within specification and corrective measures are in order. Since the cascaded system will be carrying the errors all the way through, with no way of determining where an error occurred, detection of an error in excess of the minimum error will result in diagnostic testing for the cascaded system to determine the potentially unsatisfactory communication path.--

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Please replace the paragraph commencing on line 1 with the following amended paragraph:

--Accordingly, when the measured system BER for the WDM optical communication system exceeds the predetermined BER threshold for any of the communication channels, the diagnostics analyzer 250 analyzes the transmitter diagnostic output signals

225 and receiver diagnostic output signals 235 ~~form~~from each optical transmitter 120 and optical receiver 130 in the WDM optical communication system. The diagnostics analyzer 250 identifies which optical communication channel(s) are unsatisfactory by determining where excessive bit errors were detected by the on-board diagnostic circuits in the optical transmitters 120 and optical receivers 130 in the cascaded chain of optical communication channels. By this method, the optical communication channel(s) which are not within specification are identified so that corrective measures may be taken.--